

History of Barker Reservoir

Last Updated Friday, 03 August 2007

Barker Meadow - 1900

A Brief History:

- In the early 1900s, hydroelectric power resources were recognized as a limitless source of energy, so in 1908, the Central Colorado Power Company began construction of Barker Dam to provide electricity to thriving mining camps and the booming city of Denver.

- The dam and Barker Meadow Reservoir were named for the owner of the land, Mrs. Hannah Barker. Mrs. Barker refused to sell her ranch holdings to the project developers and eventually condemnation proceedings were required to acquire the dam and reservoir site.

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1909 -- Barker Dam Construction

The Boulder Canyon Project consisted of Barker Dam, a 36-inch reinforced concrete gravity conduit from the dam to Kossler Reservoir, and a 9,647-foot long steel pipeline to the hydroelectric plant site in Boulder Canyon.

- In order to build the hydroelectric plant, construction materials were unloaded from the train at Orodell and transferred to specially built wagons pulled by teams of up to 16 horses.

- When completed, the 1,828-foot drop in elevation from Kossler Reservoir to the hydroelectric plant produced the highest water pressure of any plant in the United States at the time. Many of the practical applications used in the construction of the Boulder Canyon Hydroelectric Plant were to become textbook examples of power plant design.

- One of the most difficult problems encountered was the 800 pounds per square inch water pressure that developed in the pipeline from Kossler Reservoir to the plant. The riveted joints in the channel leaked considerably. Using the new method of acetylene welding, welders discovered that striking the joints with a ball-peen hammer while they were warm produced the needed weld strength to eliminate much of the leakage. Thus, ball-peen welding was introduced to the world.

- On August 4, 1910, the plant went into operation. The two I.P. Morris Company turbines and General Electric AC generators were capable of producing 10,000 kilowatts of power. At completion, total project costs were \$1.5 million.

- In 1913 the Colorado Power Company acquired the Central Colorado Power Company. By 1924, the Colorado Power Company had merged with the Public Service Company of Colorado (PSCo). Under the new ownership, modifications were made to the hydroelectric plant that increased its capacity to 14,000 kilowatts and eventually to 20,000 kilowatts.

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1938 -- Barker Reservoir

Since 1954, when a severe drought seriously challenged Boulder's ability to supply water to its citizens, the city has had a series of agreements with PSCo regarding use of Barker Reservoir storage and its associated water transmission facilities. A 1959 agreement allowed the city to use any excess storage in Barker Reservoir that PSCo was unable to use.

- In 1961, the city was granted the right to use up to 4,000 acre-feet of storage in Barker Reservoir, transport this water in the PSCo transmission facilities and construct the city of Boulder Pipeline No. 3 from the channel to the planned

Betasso Water Treatment Plant.

- The 1970 agreement allowed for a gradual increase in the city's storage at Barker to 8,000 acre-feet by 1978.
- The 1984 Barker Agreement allowed the city of Boulder the first right to acquire PSCo's interests in Barker Dam and Reservoir, the water transmission facilities, and the hydroelectric plant. The city of Boulder acquired a 2/3 interest in Barker Dam and Reservoir and a 1/3 interest in the water conveyance facilities by the agreement.
- In May 1998, the Barker Gravity Line suffered a break and was taken out of service for approximately five days for emergency repairs. The city asked residents to conserve water in order to avoid a major water supply crisis. City residents reduced their water use and saved approximately 20 million gallons of water during the repairs.

1909 -- Barker Dam Construction

In July 1999, city residents were again asked to conserve water when the Barker Gravity Line broke in a location very close to the 1998 break. The city's conservation efforts again avoided a water supply crisis.

- On March 7, 2001, the city purchased Barker Dam and Reservoir, the Barker Gravity Line, Kossler Reservoir, the pipeline from Kossler to Boulder Canyon Hydroelectric Plant, and the Boulder Canyon Hydroelectric Plant from Xcel Energy (Public Service Company of Colorado) for \$12.4 million.

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